

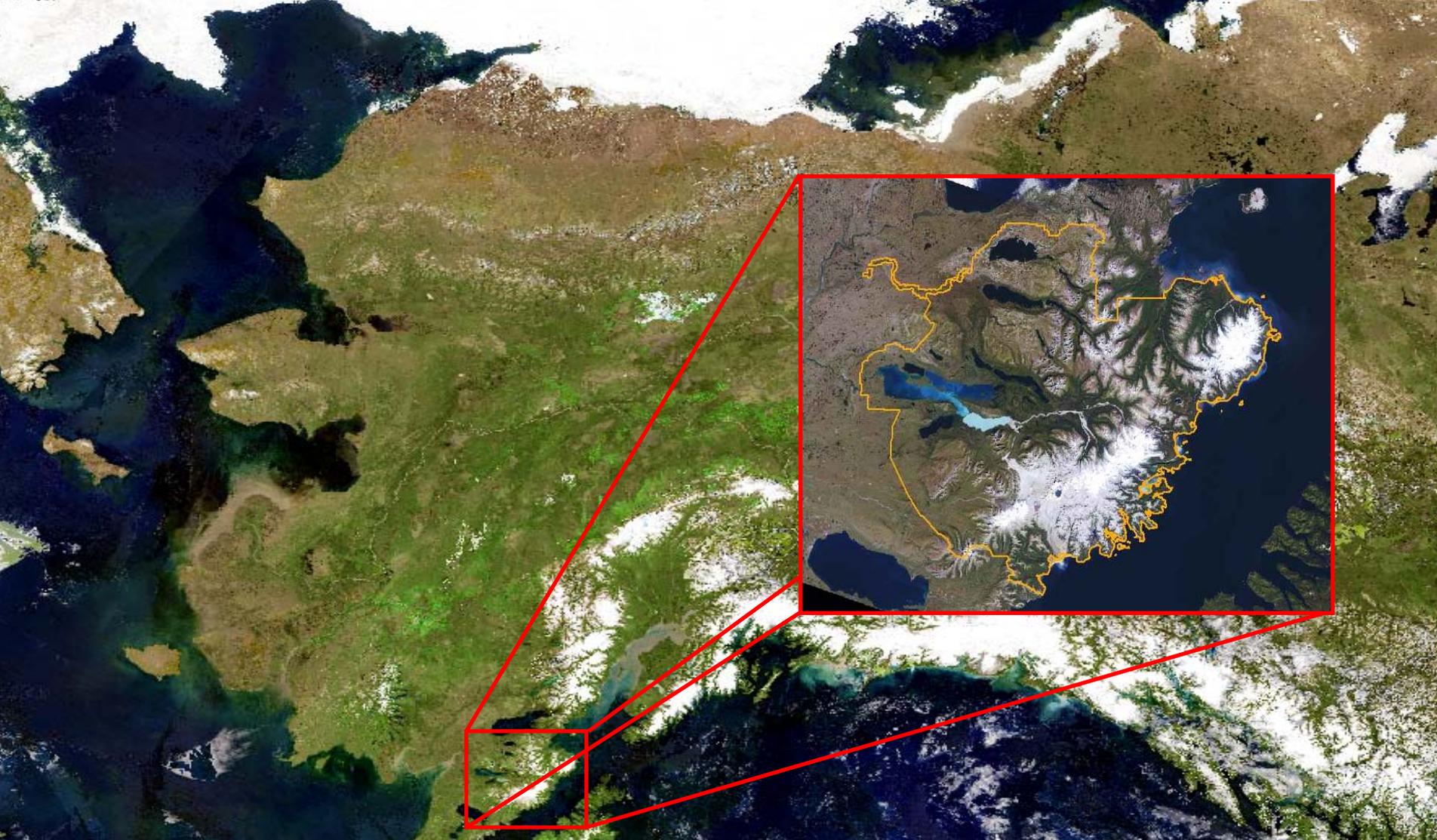
National Park Service Landcover (Vegetation) Inventory



Katmai National Park and Preserve Landcover Mapping Project

Alaska Inventory and Monitoring Program
240 W. 5th Avenue
Anchorage, Alaska 99501

Jess Grunblatt
Inventory Coordinator
907 644 3551
Jess_Grunblatt@nps.gov



Katmai National Park and Preserve
16,600 sq km (4,100,000 acres)
Detailed Spectral Database Indexed to Ecological Parameters
Interpretative Models to Derive Customized Maps

Image Processing

Geographic Resource Solutions, Inc.

Disaggregated Signature Development

Supervised/Unsupervised Techniques

Small Variance Structure

Independent Covariance

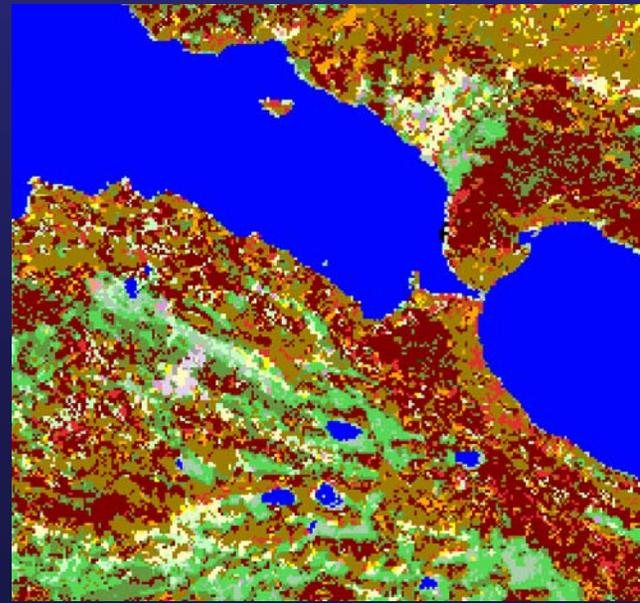
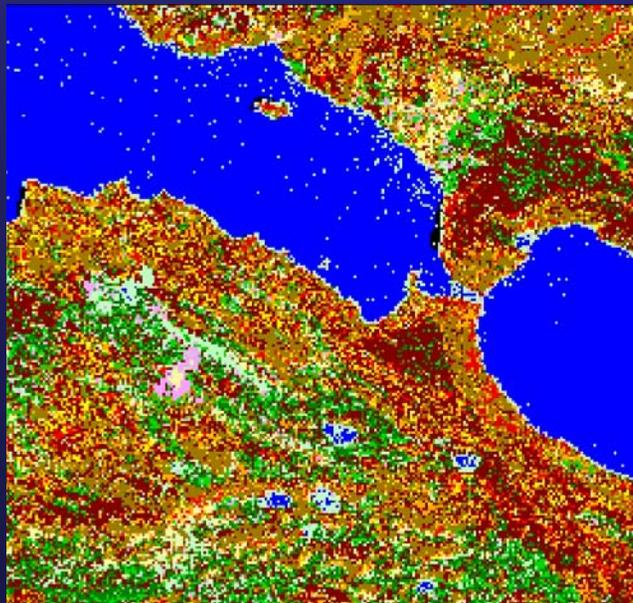
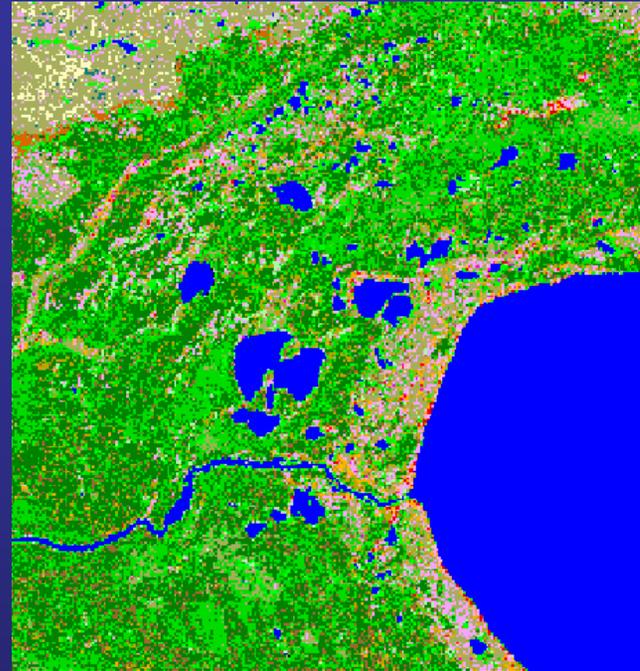
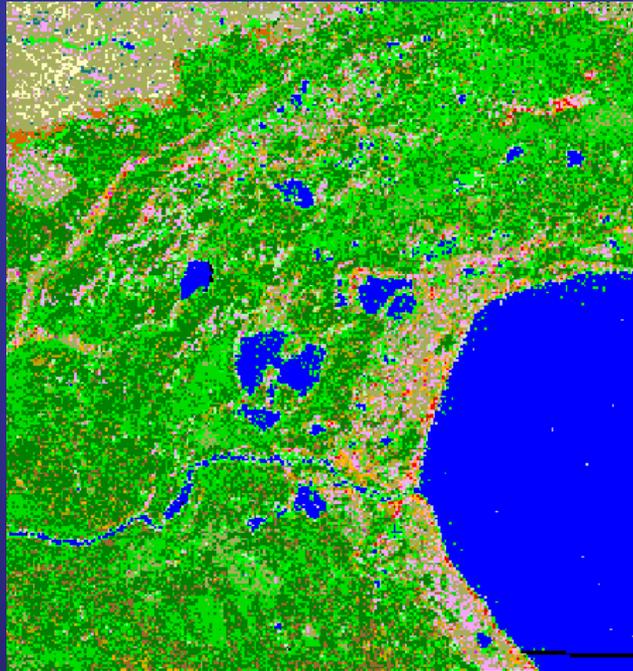
Ecologically Indexed

Site	Calculated Class	%Tree Cover	%Conifer	%Balsam Poplar	% Birch	%Shrub	%Alder	%Willow	%Forb	%Barren
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1300 Spectral Classes

Sequential Classification - Thresholds

Water Correction = band 4 + band 5

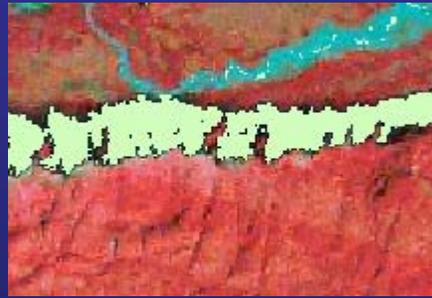


Shadowed Slope Correction

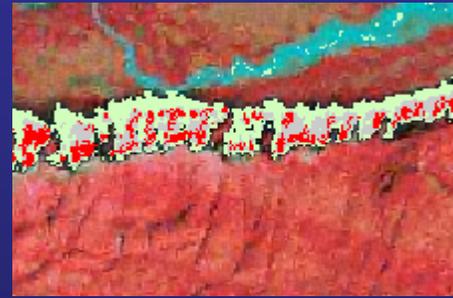
**Dark object definition
with terrain model to produce
shadow mask**



CIR Image Data



Shadow Mask



**Class reassignment
within shadow mask**

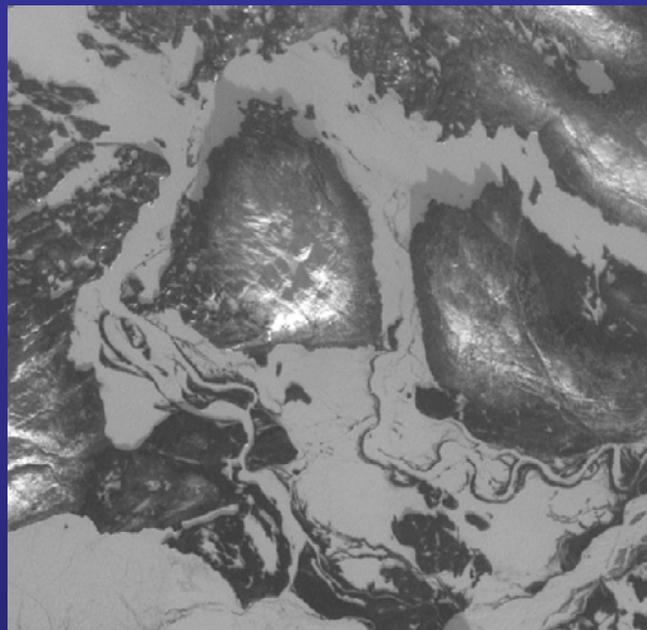
mixed shrub to alder
wet/mesic graminoid to sparse
water to unknown

Winter Image Correction

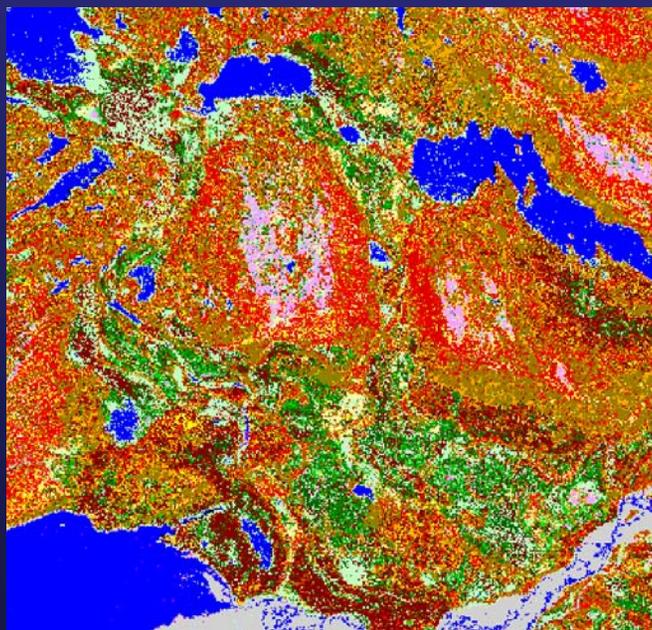
CIR
summer



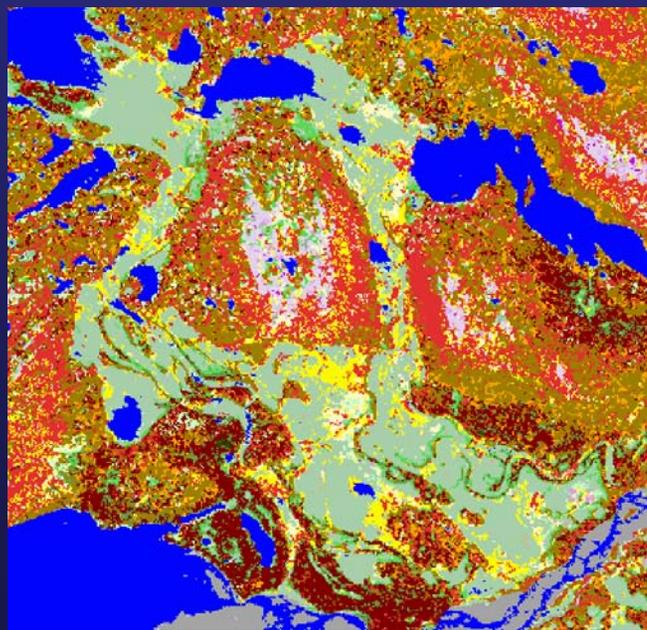
band 1
winter



uncorrected



corrected



1300+ Class Spectral Database - 50+ Attributes



37 Calculated Preliminary Classes



21 Modeled Landcover Classes



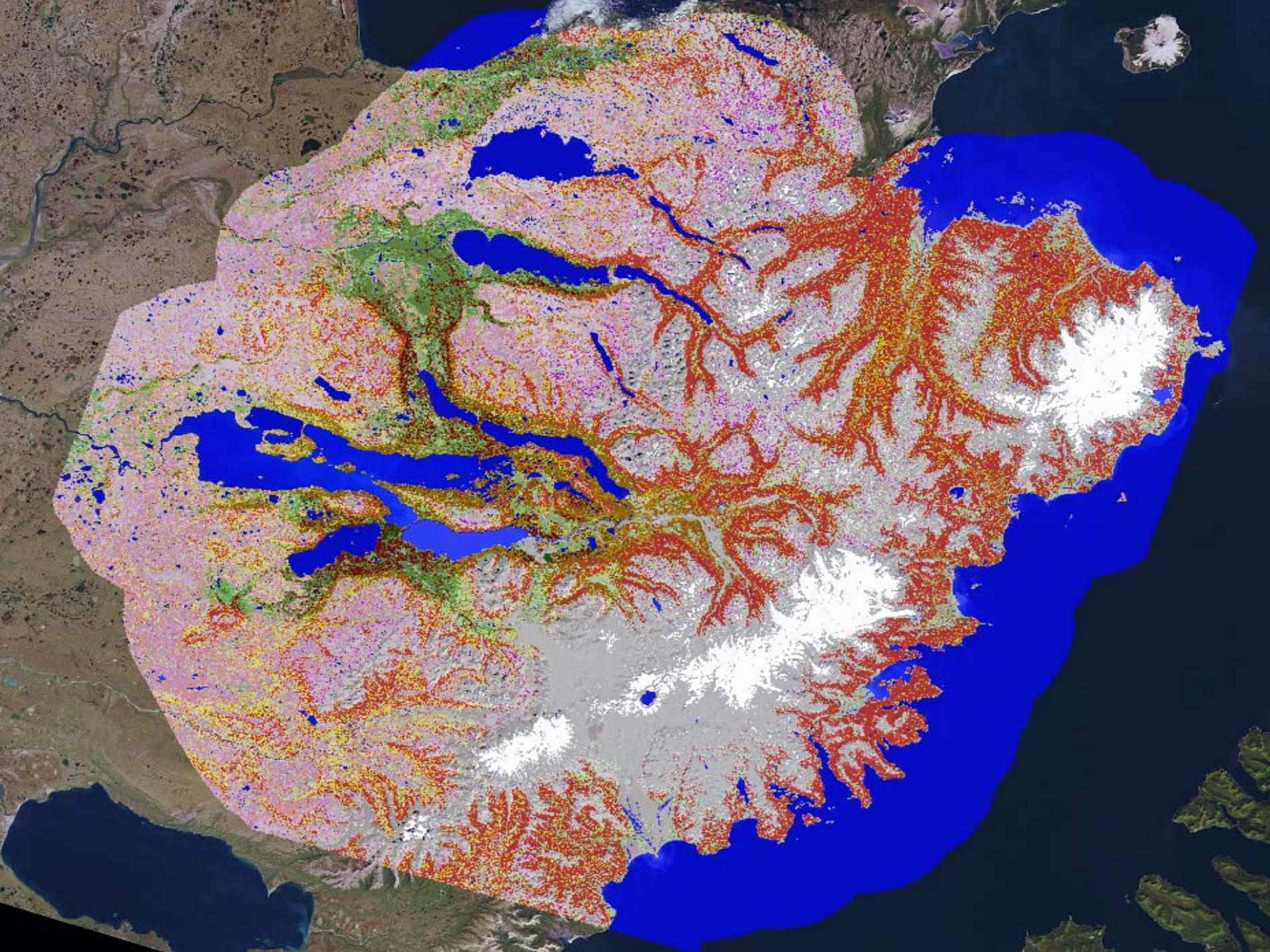
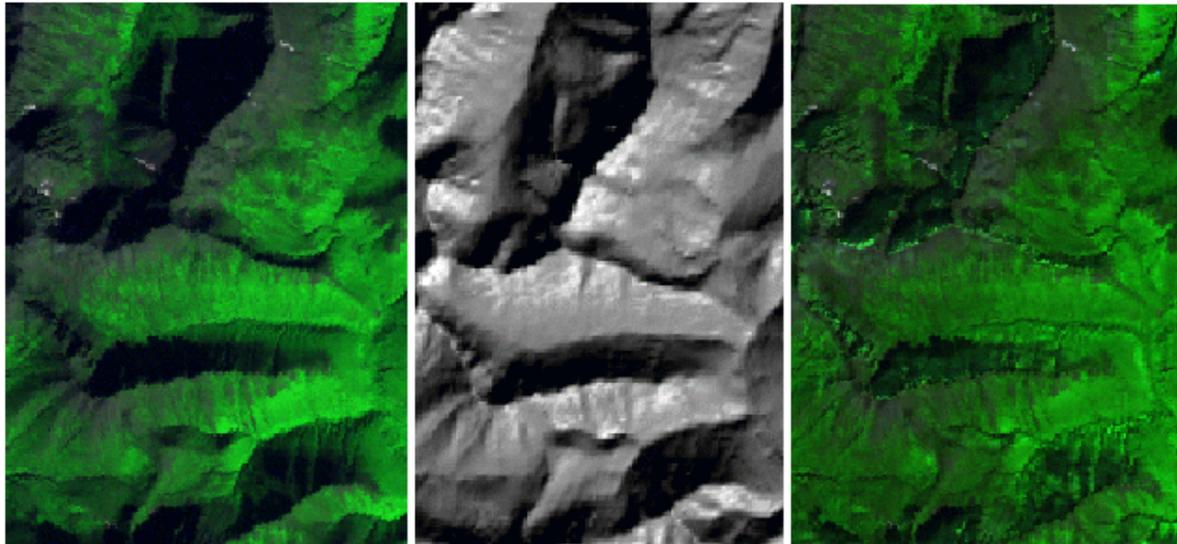
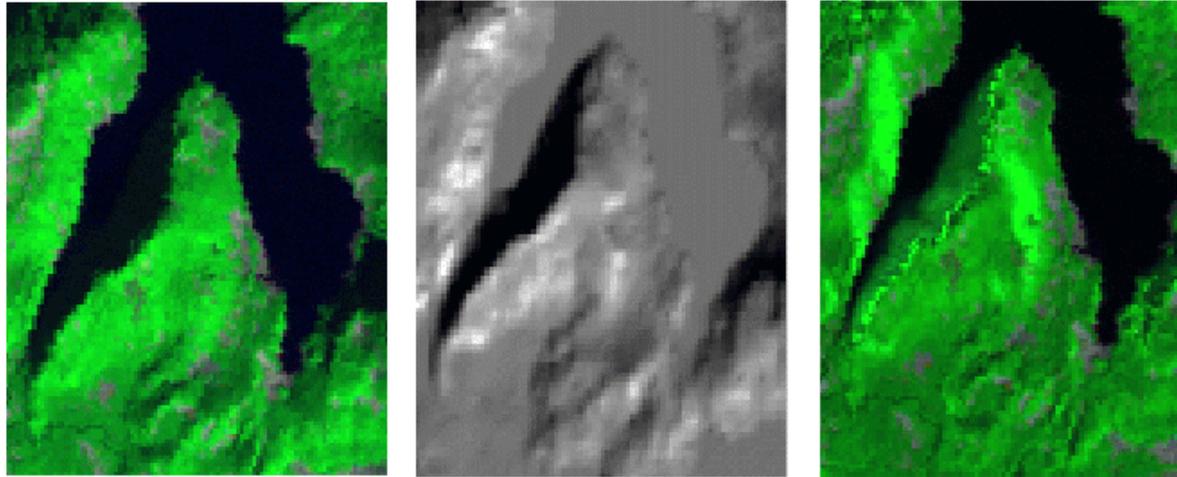


Image Processing

Terrain Illumination Correction



TM 71/15 July 21, 1985

TM 70/15 August 15, 1988

SPOT September 6, 1994 (nine scenes)

TM 69/15 September 8, 1999

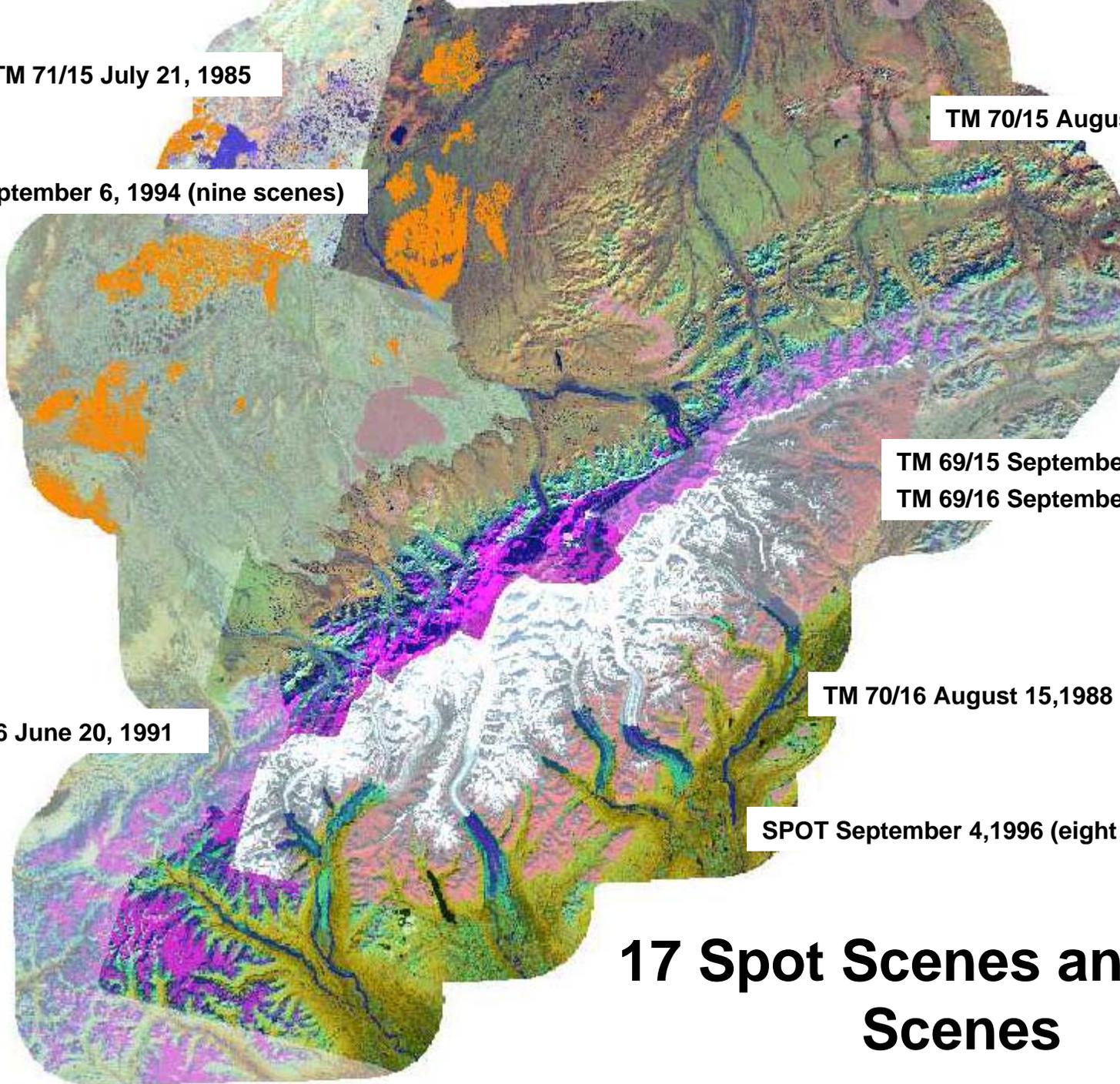
TM 69/16 September 8, 1999

TM 70/16 August 15, 1988

TM 71/16 June 20, 1991

SPOT September 4, 1996 (eight scenes)

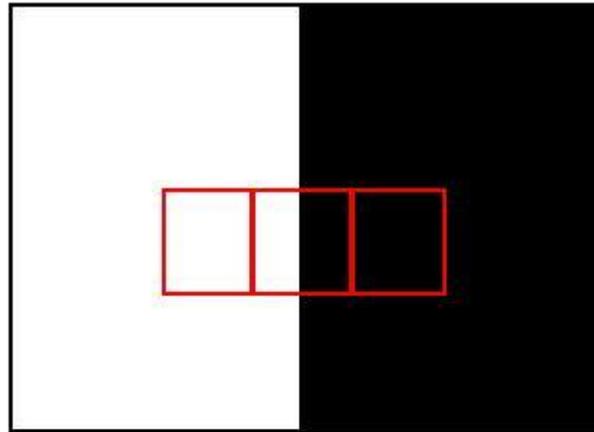
**17 Spot Scenes and 6 TM
Scenes**



Object Size (spatial resolution)

Class Names (thematic resolution)





30 meter TM and ETM Satellite Data

1 pixel (0.2 acre) Minimum Detectable High Contrast

5x5 pixel (5.5 acre) Minimum Classified

10x10 (20 acre) Minimum Mapping Unit

National Parklands in Alaska

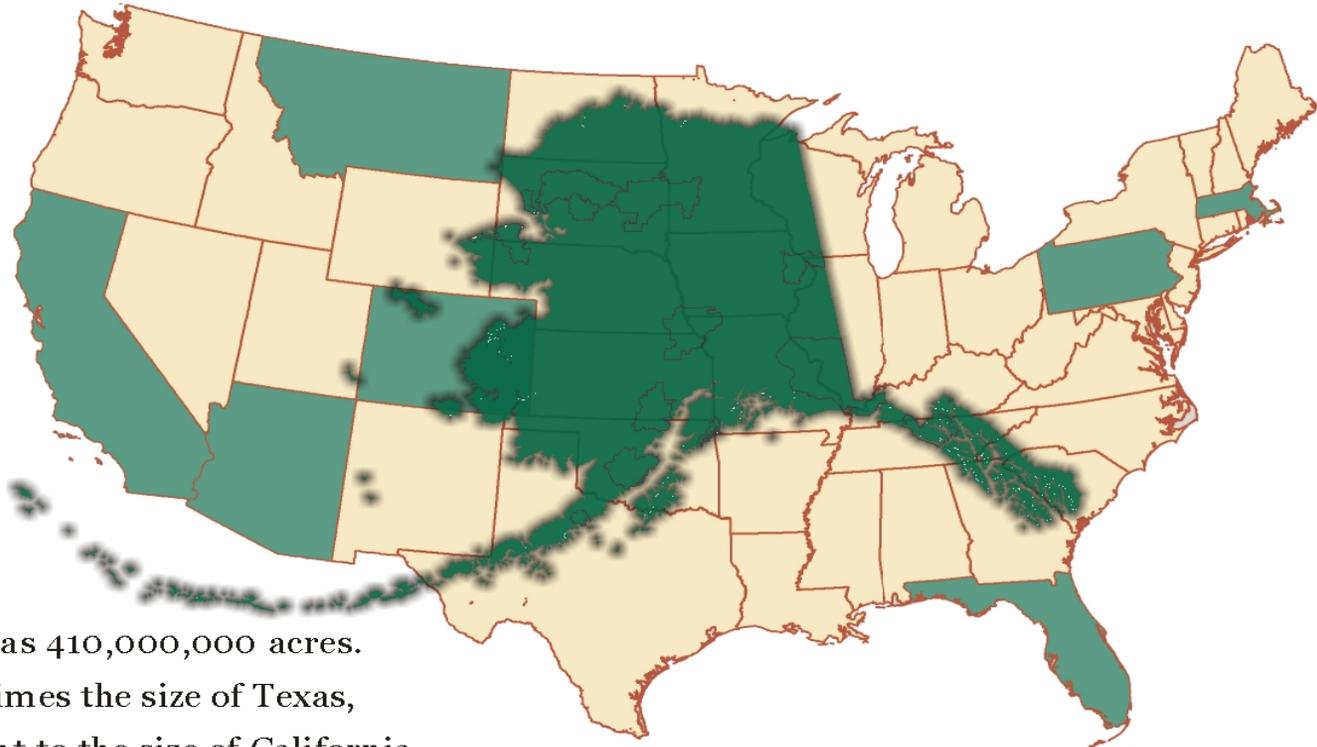
Alaska is Very BIG!

National Park Service
U.S. Department of the Interior



Alaska is 1/5 the size of
the lower 48 states.

Alaska has 33,904 miles of
coastline, more than the
rest of the United States
coastline combined.



Alaska has 410,000,000 acres.

Or 2.5 times the size of Texas,

Or equivalent to the size of California,
Montana, Colorado, Arizona, Florida,
Massachusetts, and Pennsylvania **combined!**

Alaska's international boundary with
Canada is 1,538 miles long.

0 1,200 2,400 Miles

National Parklands in Alaska

54,000,000 Acres!

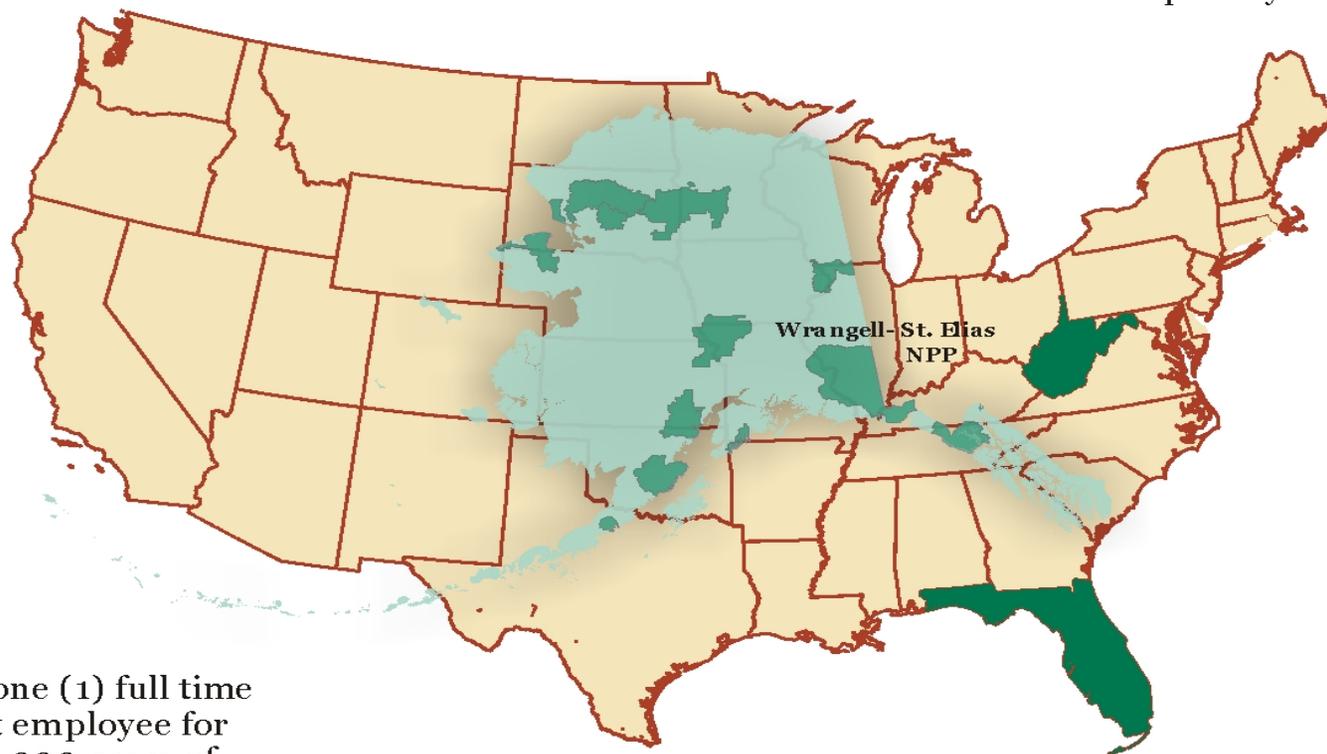
National Park Service
U.S. Department of the Interior



67% of the NPS system land area is in Alaska.

The Alaska Region's budget is less than 4% of the NPS budget system wide.

Over 13,000,000 acres, Wrangell-St. Elias National Park & Preserve is the largest unit in the park system.



Alaska has one (1) full time equivalent employee for every 140,000 acres of Alaska Park lands.

National Parklands in Alaska are equal to the area of Florida and West Virginia **combined**.

54,000,000 acres!

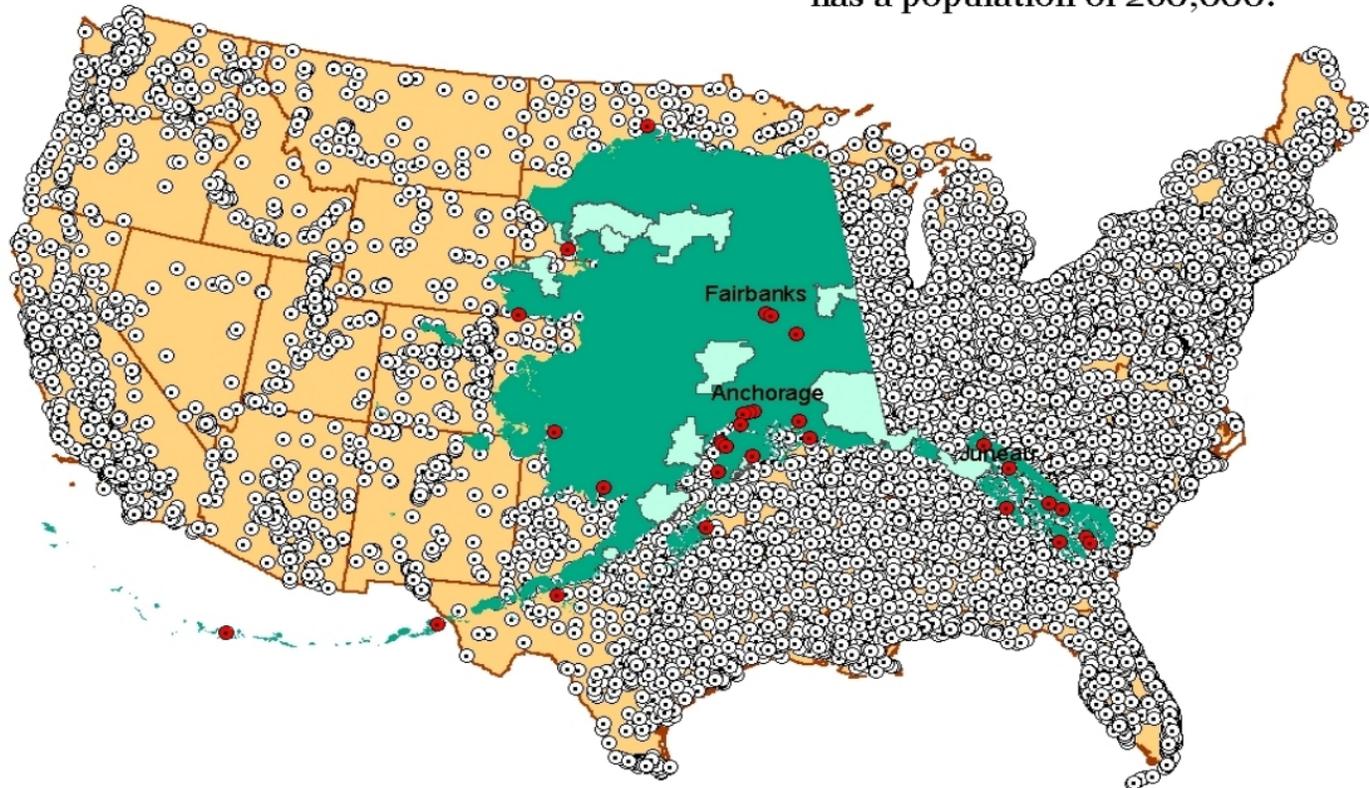
National Parklands in Alaska Population of 1,000 or more

National Park Service
U.S. Department of the Interior



Alaska's population is 614,000.

Anchorage, our largest city
and home to our NPS Regional Office,
has a population of 260,000.



Alaska has only 3 cities with a population greater than 30,000;
Anchorage, Fairbanks and Juneau.

- Alaska Communities w/ > 1,000 population
- Lower 48 Communities w/ > 1,000 population

National Parklands in Alaska

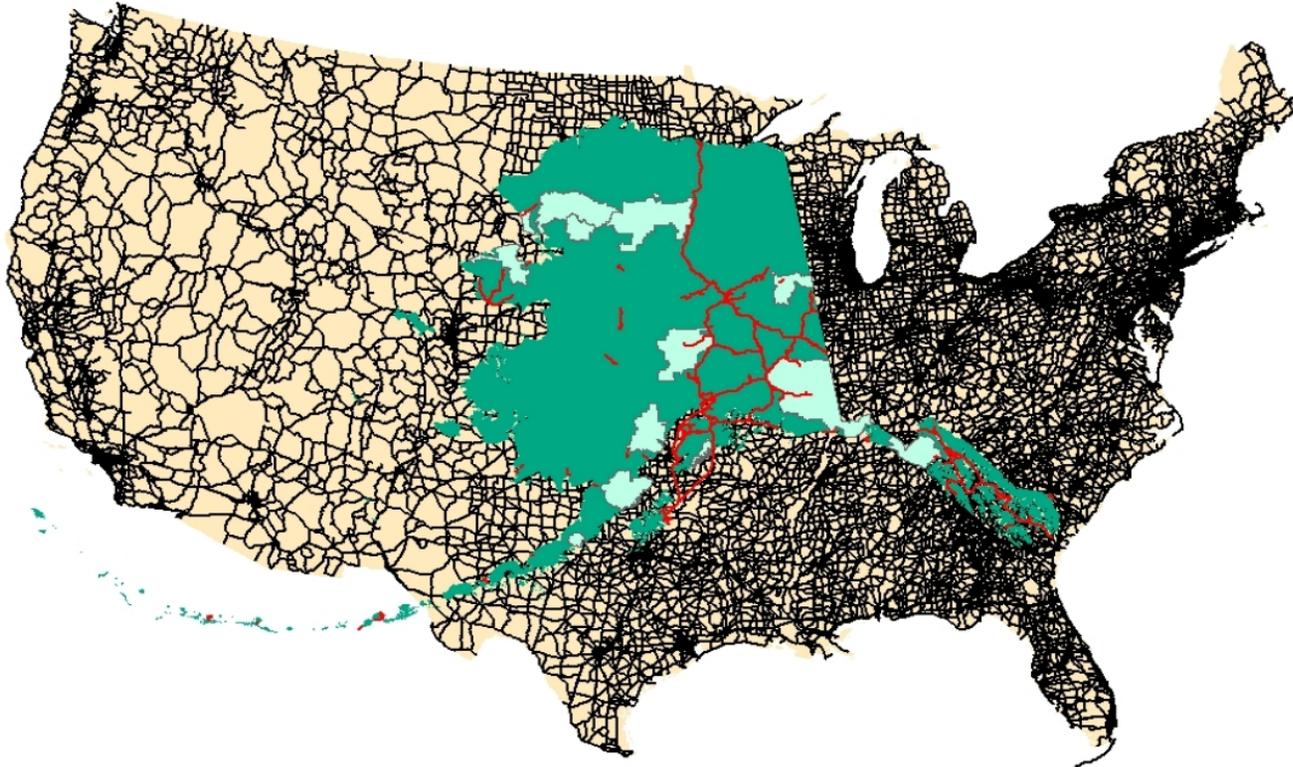
Major Roads and Highways

National Park Service
U.S. Department of the Interior



There are 12,673 miles of public roads in Alaska.
In addition, there are 2,775 miles in the
Marine Highway System (ferry routes).

30% of Alaska roads are not paved.



Alaska's National Parks have only
150 miles of roads within their boundaries.